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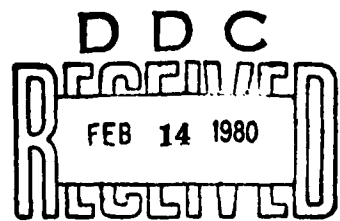
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20. ABSTRACT This is the Soviet Laser Bibliography for May-June 1979 and is no. 41 in a continuing series on Soviet Laser developments. The coverage includes basic research on solid state, liquid, gas, and chemical lasers; components; nonlinear optics; spectroscopy of laser materials; ultrashort pulse generation; theoretical aspects of advanced lasers; and general laser theory. Laser applications are listed under biological effects; communications; beam propagation; computer technology; holography; laser-induced chemical reactions; measurement of laser parameters; laser measurement applications; laser-excited optical effects; laser spectroscopy; beam-target interaction; and plasma generation and diagnostics.		

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### Introduction

This bibliography has been compiled under an interagency agreement as a continuing effort to document current Soviet-bloc developments in the quantum electronics field. The period covered is May-June 1979, and includes all significant laser-related articles received by us in that interval. The bulk of the entries come from the approximately 30 periodicals which are known to publish the most significant findings in Soviet laser technology. Citations from the Russian Reference Journals are included, as well as entries from the CIRC data base not otherwise covered. Laser items from the popular or semipopular press are generally omitted.

Section II H, Laser Measurement Applications, has a new subsection, Laser Spectroscopy.

For convenience we have abbreviated frequently cited source names; a source abbreviations list and an author index are included. All sources cited with no parenthetical notation are available at the Library of Congress. A parenthetical entry (RZh, KL) indicates the secondary source in which the citation was found as a bibliographic entry or abstract, but for which the original source is not currently available at the Library. The authors' affiliations are indicated by the numbers in parentheses following the authors' names in the text and are listed in the Author Affiliations List. New affiliations are assigned a new number and are added to a cumulative list which includes all affiliations from 1969 to the present. Only those affiliations which appear in this issue are listed in this issue's Author Affiliations List.

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## I. BASIC RESEARCH

### A. SOLID STATE LASERS

#### 1. Crystal: Ruby

#### 2. Crystal: Rare-Earth Activated

##### a. Nd<sup>3+</sup>

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#### IV. SOURCE ABBREVIATIONS

(CIRC Codens)

BAPS	(BAPTA)	Bulletin de l'Academie Polonaise des Sciences. Serie des Sciences Techniques
BWAT	(BWATA)	Biuletyn Wojskowej akademii technicznej J. Dabrowskiego
DAN B	(DBLRA)	Akademiya nauk Belorusskoy SSR. Doklady
DAN SSSR	(DANKA)	Akademiya nauk SSSR. Doklady
DAN Uz	(DANUA)	Akademiya nauk Uzbekskoy SSR. Doklady
DBAN	(CRABA)	Bulgarska akademiya na naukite. Doklady
Elek	(EKNTB)	Elektronika [Poland]
EOM	(EOBMA)	Elektronnaya obrabotka materialov
FAiO	(IFAOA)	Akademiya nauk SSSR. Izvestiya. Fizika atmosfera i okeana
FGiV	(FGVZA)	Fizika goreniya i vzryva
FikHOM	(FKOMA)	Fizika i khimiya obrabotka materialov
FTP	(FTPPA)	Fizika i tekhnika poluprovodnikov
FTT	(FTVTA)	Fizika tverdogo tela
IAN Arm	(IAAFA)	Akademiya nauk Armyanskoy SSR. Izvestiya. Fizika
IAN B	(VABFA)	Akademiya nauk Belorusskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk
IAN Fiz	(IANFA)	Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya
IAN Khim	(IASKA)	Akademiya nauk SSSR. Izvestiya. Seriya khimicheskaya
IAN Lat	(LZFTA)	Akademiya nauk Latviyskoy SSR. Izvestiya
IT	(IZTEA)	Izmeritel'naya tekhnika
IVUZ Fiz	(IVUFA)	Izvestiya vysshikh uchebnykh zavedeniy. Fizika
IVUZ Priboro	(IVUBA)	Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye
IVUZ Radioelektr (IVUZB)		Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika
IVUZ Radiofiz (IVYRA)		Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika

JTP	(JTPHD)	Journal of Technical Physics [Poland]
KE	(KVEKA)	Kvantovaya elektronika
KhVE	(KHKVA)	Khimiya vysokikh energiy
KL	(KNLTA)	Knizhnaya letopis'
KLDV	(KLDVA)	Knizhnaya letopis'. Dopolnitel'nyy vypusk
Kristal	(KRISA)	Kristallografiya
KSpF	(KRSFA)	Kratkiye soobshcheniya po fizike
MiTOM	(MTOMA)	Metallovedeniye i termicheskaya obrabotka materialov
MZhIG	(IMZGA)	Akademiya nauk SSSR. Izvestiya. Mekhanika zhidkosti i gaza
NM	(IVNMA)	Akademiya nauk SSSR. Izvestiya. Neorganicheskiye materialy
OiS	(OPSPA)	Optika i spektroskopiya
OMP	(OPMPA)	Optiko-mekhanicheskaya promyshlennost'
Otkr izobr	(OIPOV)	Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki
Opt app	(OPAPB)	Optica applicata [Poland]
PTE	(PRTEA)	Pribory i tekhnika eksperimenta
RiE	(RAELA)	Radiotekhnika i elektronika
RZhF	(RZFZA)	Referativnyy zhurnal. Fizika
RZhGeofiz	(GZGFA)	Referativnyy zhurnal. Geofizika
RZhMekh	(RZMKA)	Referativnyy zhurnal. Mekhanika
RZhRadiot	(RZRAB)	Referativnyy zhurnal. Radiotekhnika
Sb1	Sbornik	Issledovaniya po matematike i fizike. Grodno, 1978.
Sb2		Fizicheskiye svoystva gazov i tverdykh tel. Minsk, 1978.
Sb3		Kvantovaya elektronika, no. 16, Kiyev, 1979.
Sb4		Neravnovesnyye techeniya gaza i optimal'nyye formy tel v sverkhzvukovom potoke. Moskva, 1978.

- Sb5 Issledovaniya slozhnogo teploobmena. Nauchnaya konferentsiya molodykh issledovateley. 12th, Novosibirsk, April 1978. Materialy. Novosibirsk, 1978.
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- Sb18 Effektivnost' kapital'nykh vlozheniy i novoy tekhniki, no. 3, Cheboksary, 1978.
- Sb19 Izmeritel'nyye generatory i priyemniki v etalonakh i obraztsakh sredstvakh izmereniya. Moskva, 1978.
- Sb20 Rabochiye etalony i obraztsovyye sredstva izmereniy v energeticheskoy fotometrii lazernogo izlucheniya. Moskva, 1978.
- Sb21 Radiofizika i issledovaniye svoystv veshchestva, no. 3, Omsk, 1978.

Sb22		Problemy golografii, no. 9, 1977.
Sb23		Magnitnyye poluprovodnikovyye shpineli tipa $\text{CdCr}_2\text{Se}_4$ . Kishinev, 1978.
Sb24		Inversiya Abelya i yeye obobshcheniya. Novosibirsk, 1978.
TKiT	(TKTEA)	Tekhnika kino i televedeniya
Tr1	Trudy	Fizicheskiy institut AN SSSR. Trudy, no. 113, 1979.
Tr2		VNII televideniya i radioveshchaniya. Trudy, no. 10(29), 1978.
Tr3		Moskovskiy energeticheskiy institut. Trudy, no. 379, 1978.
Tr4		Leningradskiy elektrotekhnicheskiy institut. Izvestiya, no. 229, 1978.
Tr5		Fizicheskiy institut AN SSSR. Trudy, no. 111, 1979.
Tr6		Belorusskiy universitet. Vestnik, seriya 1, no. 1, 1979.
Tr7		Trudy uchebnykh institutov svyazi. Priyemno-peredayushchaya tekhnika i anteny. Leningrad, 1978.
Tr8		VNI i proyektnyy institut khimiko-fotograficheskoy promyshlennosti. Sbornik nauchnykh trudov, no. 27, 1978.
Tr9		Kiyevskiy politekhnicheskiy institut. Vestnik. Radiotekhnika, no. 16, 1979.
Tr10		Fizicheskiy institut AN SSSR. Trudy, no. 110, 1979.
Tr11		VNI kinofotoinstitut. Trudy, no. 94, 1978.
TVT	(TVTYA)	Teplofizika vysokikh temperatur
UFZh	(UFIZA)	Ukrainskiy fizicheskiy zhurnal
ZhETF P	(ZFPRA)	Pis'ma v Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhNiPFiK	(ZNPFA)	Zhurnal nauchnoy i prikladnoy fotografii i kinematografii
ZhPMTF	(ZPMFA)	Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki
ZhPS	(ZPSBA)	Zhurnal prikladnoy spektroskopii
ZhTF	(ZTEFA)	Zhurnal tekhnicheskoy fiziki
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KEDZIERSKI W	56	KLISHCHENKO A P	28	KOSLOBOV S N	28	KUDREV V N	60
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KHAKIMOV A A	37	KLYUYEV V V	78	KOTOV V M	34	KUKIRNYI YU A	16
KHANBEKYAN A M	12	KOCHELAP V A	16	KOTOV YU A	70	KULAGA A YE	61
KHANOV V A	8	KOCHETOV I V	15	KOTOVA S P	49	KUNAVIN A T	60
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SENEV YE P	31	SHURBELEV P A	42	SOLOMONOV V I	23		
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SHATUROV G F	73	SLOMINSKIY YU L	51	STRAVROVSKIY D B	25		
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SHELEPIN L A	36	SMIRNOVA T N	61	SUKHURKOV A P	4		
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7	VASHCHUK V I		ZEGE E P	38		
57	VASILENKO YU G	71	ZELENIN G V	61		
49	VASIL YEV A A	65	ZELENOV A A	20		
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62	VAS KOV V A	61	ZHIGUN S A	21		
52	VEDENEYEV V I	74	ZHIKOV N V	74		
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